

CLAIMS

What is claimed is:

1. A method for determining whether an radio frequency identification device is detected, the method comprising:
selecting a plurality of different antenna patterns from a predetermined multiplicity of antenna patterns;
determining a plurality of binary results each responsive to whether a respective communication link provides a respective signal having a respective amplitude exceeding a respective threshold, each communication link operative in accordance with at least one of the selected antenna patterns;
selecting, from a plurality of predetermined methods, a method for forming a logical combination; and
determining that the radio frequency identification device is detected in accordance with performing the method to form a logical combination in accordance with the plurality of binary results.

2. The method of claim 1 wherein the first threshold is equal to the second threshold.

3. The method of claim 1 wherein at least one of the respective communication links comprises:

a. a receiver; and
b. an antenna coupled to the receiver, wherein the antenna and the receiver cooperate in accordance with the respective antenna pattern.

4. The method of claim 1 wherein at least one of the respective communication links comprises:

a. a transmitter; and
b. an antenna coupled to the transmitter, wherein the antenna and the transmitter cooperate in accordance with the respective antenna pattern.

5. The method of claim 1 wherein each selected antenna pattern has a different polarization.

1 6. The method of claim 1 wherein each selected antenna pattern has a different direction of
2 maximum effectiveness as an antenna.

3 7. The method of claim 1 wherein at least one of the predetermined methods provides the
4 logical combination in accordance with a logical OR of at least two of the plurality of binary
5 results.

1 8. The method of claim 1 wherein at least one of the predetermined methods provides the
2 logical combination in accordance with a logical AND of at least two of the plurality of binary
3 results.

1 9. The method of claim 1 wherein R1, R2, R3, and R4 represent four results of the plurality
2 of binary results, at least one of the predetermined methods provides the logical combination in
3 accordance with the logical expression: $(R1 \text{ OR } R2) \text{ AND } (R3 \text{ OR } R4)$.

1 10. The method of claim 1 wherein R1, R2, R3, and R4 represent four results of the plurality
2 of binary results, at least one of the predetermined methods provides the logical combination in
3 accordance with the logical expression: $(R1 \text{ AND } R2) \text{ OR } (R3 \text{ AND } R4)$.

1 11. The method of claim 1 wherein at least one of the predetermined methods provides the
2 logical combination in accordance with whether a sum of the plurality of binary results exceeds a
3 predetermined quantity.

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